

### **REMARKS**

In response to the Office Action mailed March 23, 2005, Applicant respectfully requests reconsideration. Claims 1 and 18-41 were previously pending in this application. By this amendment, claims 1, 18, 19-22, 31 and 33-36 have been amended. New claim 42 has been added. As a result, claims 1 and 18-42 are pending for examination with claims 1, 18, 19 and 31 being independent. No new matter has been added.

Applicant appreciates the courtesies extended by Examiner Ho in conducting the telephone conference on August 22, 2005. During the telephone conference, the rejections under 35 U.S.C. §112 asserted on page 2, ¶3 of the Office Action were discussed. The details of the telephone conference are discussed below.

#### **I. Rejections under 35 U.S.C. §112**

The Office rejects claims 1, 18, 19, 20, 29, 30, 31, 32, 40 and 41 under 35 U.S.C. 112, first paragraph, as purportedly failing to comply with the enablement requirement. The Office Action asserts that there is no support in the specification for "a CT scanner that determines one or more locations for at least one CT scan without receiving information from a second scanner." Applicant respectfully disagrees. To gain a better understanding of the rejection, Applicant's representatives requested, and the Examiner kindly agreed to a telephone interview, which was conducted on August 22, 2005. The substance of the interview is summarized herein.

##### **A. Claims 18, 19 and 31**

Claims 18, 19 and 31 include the above quoted language, and were therefore the focus of the discussion, particularly with respect to claim 18. During the telephone conference, the Examiner explained that it is his position that the specification does not support at least one processor that determines one or more locations for at least one CT scan without using a pre-scanner to provide information to the at least one processor. Without conceding that that was correct, Applicant pointed out that claims 18, 19 and 31 do not require a system without a pre-scanner and recite subject matter that is fully supported in the specification.

Applicant explained that claims 18, 19 and 31 are directed to aspects of the invention not limited to whether the system employs a pre-scanner or not, and were intended to be generic to systems that use a pre-scanner and systems that do not. In particular, claims 18, 19 and 31 are directed to a system and method that includes a distinct computer that implements a detection

algorithm. The “at least one processor” is recited in claims 18, 19 and 31 to make clear that the computer that implements the detection algorithm is separate from the processor utilized in controlling the CT scanner. Thus, the description of the processor determining scan locations was included to make clear that the processor controlled the CT scanner.

The Examiner appreciated what the claims are intended to cover and suggested replacing the language “that determines one or more locations” with language that recites the at least one processor as being used to control the at least one CT scan. The Examiner indicated that the proposed amendment would overcome the rejection. Therefore, claims 18 and 19 have been amended to recite a “CT scanner comprising at least one processor that controls, at least in part, the at least one CT scan.” Claim 31 has been amended to recite a “CT scanner comprising at least one processor that controls, at least in part, the CT scan.” While Applicant believes that claims 18, 19 and 31, as previously presented, were enabled by the specification, the amendments have been made to further the prosecution of this application. Accordingly, Applicant respectfully requests that the rejection of claims 18, 19 and 31 be withdrawn.

B. Claim 1

As discussed above, the Office Action asserts that the specification does not support a “CT scanner comprising at least one processor that determines one or more locations for the at least one CT scan.” However, claim 1 does not recite a CT scanner comprising at least one processor that determines one or more locations for the at least one CT scan. Rather, amended claim 1 recites “an X-ray scanner coupled the communication medium that scans an object and generates information about the object from the scan” and further recites “an external computer, located remotely from the device, that receives the information over the communication medium via the Ethernet link and implements a detection algorithm that processes the information to automatically identify subject matter associated with threat material to facilitate performing a threat determination about the object.”

Claim 1 reads at least on the embodiment shown in FIG. 1 in connection with the accompanying description on page 8, line 6 – page 9, line 29. That is, the specification enables at least one embodiment on which claim 1 reads. Therefore, claim 1 satisfies the enablement requirement of 35 U.S.C. §112, first paragraph in this respect. Applicant respectfully requests that this rejection of claim 1 be withdrawn.

The Office Action further rejects claim 1 under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement because the specification, while enabling x-ray scanners, does not reasonably provide enablement for a device. While Applicant disagrees with the rejection, Applicant has amended claim 1 to recite an X-ray scanner to further the prosecution of this application. Applicant reserves the right to add and pursue claims of the prior scope in this or related applications and to specifically address the patentability of such claims in the future, if deemed necessary. Claim 1 now recites “an X-ray scanner,” which the Office Action concedes is enabled by the specification. Therefore, Applicant respectfully requests that the rejection be withdrawn.

## **II. Rejections under 35 U.S.C. §102**

The Office Action rejects claims 1 and 18-41 under 35 U.S.C. 102(b) as being anticipated by Peschmann (U.S. Patent No. 5,367,552). Applicant respectfully traverses this rejection.

### **A. Claim 1**

While Applicant believes claim 1, as previously presented, patentably distinguishes over Peschmann, Applicant has amended claim 1 to more clearly recite the distinctions. First, claim 1 has been amended to specifically recite that the external computer “receives the information over the communication medium via the Ethernet link.” Second, claim 1 now recites that the external computer “implements a detection algorithm that processes the information to automatically identify subject matter in the information associated with threat material to facilitate performing a threat determination about the object.”

Peschmann discloses only the remote display station (col. 6, lines 6-9) and the object reconstruction system 28 (FIG. 1-2) as receiving information over an Ethernet link, neither of which implement a detection algorithm for automatically identifying subject matter associated with threat material. The remote display station allows images to be viewed, and the object reconstruction system 28 performs reconstruction for display to a human operator. Col. 6, lines 10-34 describe various reconstruction algorithms that object reconstruction system 28 may perform, none of which have anything to do with “automatically identifying subject matter associated with threat material.”

It should be appreciated that object reconstruction system 28 merely renders CT scans for display to a human operator in one of a number of selectable ways (e.g., CT slices, cross-sections

at oblique angles, and three dimensional renderings at selected view angles) once the CT scan data has been processed by object detection system 26. The disclosure in Peschmann at column 6, lines 10-18 is noteworthy in this respect, stating:

Such construction of target items is accomplished by an object reconstruction system 28. That is, after an object of interest has been automatically identified, the object reconstruction system 28 may be used to reconstruct and display the object to a human operator for additional interpretation. (Emphasis added).

That is, the automatic identification described in Peschmann is performed before object reconstruction system 28 receives the CT scans. Object reconstruction system 28 is nowhere described as implementing a detection algorithm for automatically identifying threat material. Indeed, the only component Peschmann describes as performing a detection algorithm is object detection system 26, which receives information over the “SBUS” and “DATA LINK,” not over the Ethernet link. Accordingly, Peschmann nowhere discloses or suggests an external computer that “receives the information over the communication medium via the Ethernet link,” wherein the external computer “implements a detection algorithm that processes the information to automatically identify subject matter associated with threat material to facilitate performing a threat determination about the object,” as recited in claim 1. Therefore, claim 1 patentably distinguishes over Peschmann and is in allowable condition.

B. Claims 18, 19 and 31.

On page 6, in the “Response to Arguments” section, the Office Action disagrees with Applicant’s assertion that workstation 64 is not a computer remote from the CT scanner. The Office Action asserts that it cannot be determined what distance from the CT scanner would qualify as a remote computer. To better clarify the relationship between the CT scanner and the computer, claims 18, 19 and 31 have been amended to recite a computer *distinct* from the CT scanner, rather than remote. Object detection system 26, which includes workstation 64, is an integral component of the CT device, without which the device would not operate properly. Peschmann discloses an apparatus for detecting concealed objects, wherein CT scanning is undertaken only at locations determined from pre-scan data to reduce the scanning time, overall inspection time and expense (col. 4 lines 8-25; Abstract). That is, determining CT scan locations from pre-scan data to control the CT system 24 is an integral and key function of the CT device.

FIG. 2 illustrates the primary processing steps of Peschmann's disclosure. It should be appreciated that steps 102, 106 and 108 are performed in significant part, if not entirely, by object detection system 26. Of particular note is step 102, in which the CT scan locations are determined so that an entire bag need not be scanned, thus reducing scan and inspection times. That is, the actions of step 102 perform the core functions that provide the Peschmann apparatus with the stated advantages. The actions performed in step 102 are described in col. 7, lines 17-51, and are performed by workstation 64 (see col. 7, lines 48-51). Accordingly, workstation 64 is not a computer distinct from the CT scanner, but an integrated component without which the CT scanner would not operate as intended. Peschmann nowhere describes a computer distinct from the CT scanner that implements a detection algorithm.

i. Claim 18

Claim 18 recites a threat detection system comprising a communication medium, at least one computed tomography (CT) scanner coupled to the communication medium, and a computer coupled to the communication medium. The at least one CT scanner performs at least one CT scan of an object and generates data representative of the object based at least partially upon the at least one CT scan. The CT scanner comprises at least one processor that controls, at least in part, the at least one CT scan. The computer is distinct from the CT scanner and receives the data from the CT scanner via the communication medium. The computer implements a detection algorithm that performs a threat determination about the object based at least partially on the data.

As should be appreciated from the foregoing, the only computer disclosed in Peschmann as being distinct from the CT scanner 10 is the object reconstruction system 28, which does not implement a detection algorithm that performs a threat determination, but only reconstructs data to present it in a form viewable by a human operator. (col. 3, lines 59-68).

The workstation 64 (and associated VME computer) is the only computer in Peschmann that implements an algorithm that performs a threat determination, but it is part of the CT scanner and not distinct from it. In this respect, the CT scanner recited in claim 18 cannot be read on the gantry system 24 or any other group of components of the CT scanner 10 that excludes the workstation 64, because claim 18 requires that the claimed CT scanner comprise at

least one processor that determines one or more locations for the at least one CT scan, and the only such processor in Peschmann is the workstation 64.

In view of the foregoing, claim 18 patentably distinguishes over Peschmann, as well as the other prior art of record.

ii. Claim 19

Claim 19 recites a threat detection system comprising a communication medium, at least one computed tomography (CT) scanner coupled to the communication medium, and a computer coupled to the communication medium. The at least one CT scanner performs at least one CT scan of an object and generates data representative of the object based at least partially upon the at least one CT scan. The CT scanner comprises at least one processor that controls, at least in part, the at least one CT scan. The computer is distinct from the CT scanner and receives the data from the CT scanner via the communication medium. The computer implements a detection algorithm that processes the data to automatically identify subject matter in the data associated with threat material to facilitate automatically performing a threat determination about the object.

As discussed in connection with claim 18, the only computer disclosed in Peschmann as being distinct from the CT scanner 10 is the object reconstruction system 28, which does not implement a detection algorithm that processes the data to automatically identify threat material to aid in determining a threat determination, but only reconstructs data to present it in a form viewable by a human operator. (col. 3, lines 59-68).

The workstation 64 (and associated VME computer) is the only computer in Peschmann that implements an algorithm that processes the data in a manner to facilitate automatically performing a threat determination, but it is part of the CT scanner and not distinct from it. As with claim 18, the CT scanner recited in claim 19 cannot be read on the gantry system 24 or any other group of components of the CT scanner 10 that excludes the workstation 64, because claim 19 requires that the claimed CT scanner comprise at least one processor that determines one or more locations for the at least one CT scan, and the only such processor in Peschmann is the workstation 64.

In view of the foregoing, claim 19 patentably distinguishes over Peschmann, as well as the other prior art of record. Claims 20-30 depend from claim 19 and are patentable for at least the same reasons.

ii. Claim 31

Claim 31 recites a method of making a threat determination about an object. The method comprises acts of (A) performing a computed tomography (CT) scan of the object using a CT scanner that generates data representative of the object, the CT scan comprising a scan at a plurality of locations, the CT scanner comprising at least one processor that controls, at least in part, the CT scan, (B) transmitting the data from the CT scanner over the communication medium to a distinct computer, and (C) processing the data, via the distinct computer, to automatically identify subject matter in the data associated with threat material to facilitate performing a threat determination about the object.

As discussed in connection with claim 19, the only computer disclosed in Peschmann as being distinct from the CT scanner 10 is the object reconstruction system 28, which does not implement an algorithm that processes the data to automatically identify threat material to aid in determining a threat determination, but only reconstructs data to present it in a form viewable by a human operator. (col. 3, lines 59-68).

The workstation 64 (and associated VME computer) is the only computer in Peschmann that implements an algorithm that processes the data in a manner to facilitate automatically performing a threat determination, but it is part of the CT scanner and not distinct from it. As with claim 19, the CT scanner recited in claim 31 cannot be read on the gantry system 24 or any other group of components of the CT scanner 10 that excludes the workstation 64, because claim 31 requires that the claimed CT scanner comprise at least one processor that determines one or more locations for the at least one CT scan, and the only such processor in Peschmann is the workstation 64.

In view of the foregoing, claim 31 patentably distinguishes over Peschmann, as well as the other prior art of record. Claims 32-41 depend from claim 31 and are patentable for at least the same reasons.

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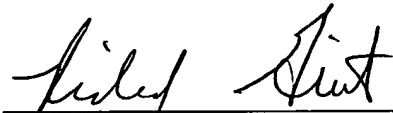
**CONCLUSION**

A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,  
*Richard R. Bijjani et al., Applicants*

By:



Richard F. Giunta, Reg. No. 36,149  
Wolf, Greenfield & Sacks, P.C.  
600 Atlantic Avenue  
Boston, Massachusetts 02210-2206  
Telephone: (617) 646-8000

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